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XIII. *A new Method of treating the Fistula Lachrymalis.*

By Mr. William Blizard, Surgeon, F. A. S.; communicated by Mr. Joseph Warner, Surgeon, F. R. S.

Read Feb. 24, 1780.

IN every period of the disease, termed *fistula lachrymalis*, there is understood to exist a degree of obstruction in the nasal duct; so that more or less of the tears, mixed with the oily secretion of the sebaceous glands of the eye-lids, and mucus of the internal surface of the lachrymal sac, being prevented from passing into the nose, are expelled through the lachrymal puncta upon the surface of the eye, and down the cheek.

Writers on surgery divide this disease into several stages; the first and most simple being that of obstruction, with little or no inflammation; and so on, according to the degree or effect of inflammation, to the last stage, a sloughy, ulcerated condition of the sac and its integuments, with, now and then, a *caries* of the bony parts.

Though

Though the disease be frequently the effect of a *virus* in the habit, yet surgeons find, that sometimes the cause is very simple, and easily to be conceived from the analogy of parts.

The membranous portions of the nasal duct and lachrymal sac are a continuation of the pituitous membrane of the nose. This membrane is exceedingly vascular, secretes a large quantity of mucus upon its internal surface, and is endued with a great degree of sensibility.

Experience shews the great defluxions that are oftentimes made upon the pituitous membrane; the increased secretion of mucus that happens upon the application of various stimulants; and the firm consistence it often acquires from stagnation, absorption, and evaporation of its thinner parts: moreover, that the membrane itself frequently becomes inflamed and thickened.

The duct and sac may be affected through obstructed perspiration, &c.; and thickened from the turgid state of their vessels: the secretion of mucus may also be considerably augmented. From the thickened state of the membrane of the duct, the fluids in the sac pass with difficulty: by retention, warmth, and absorption, they are rendered viscid; and the difficulty, that at first arose from the thickened state of the membrane,

now arises from another cause, namely, the inspissated state of the fluids.

These are, probably, the most simple causes of obstruction in the nasal duct; but, from whatever cause the obstruction had its origin, in its early state, when unattended with a morbid change of the contiguous parts, it is considered as the first and most simple stage of the *fistula lachrymalis*. It is in this stage that the means of obviating the necessity of a troublesome and uncertain operation should be employed, with any rational expectation of success.

The principal of these means are:

1. Compression; declared by experienced practitioners to be injudicious.

2. The passing an instrument into the nostril, and up the duct; an operation very painful to the patient, and exceedingly troublesome to the operator.

3. The introducing a probe through one of the puncta into the duct, after M. ANEL's manner; by experience proved to be inadequate to the design.

4. The impelling a fluid, by a syringe, through one of the puncta, as directed by M. ANEL; allowed by judicious and experienced surgeons to be sometimes useful.

On reflecting upon the last method, I was induced to think, that if a fluid, of a great degree of specific

gravity, as quicksilver, could be passed through one of the puncta, so as to fill the sac and duct, and press upon the obstructed part, it might be reasonably expected to remove the obstruction in the first and simple stage of the disease; at least, to have a much better chance of producing this effect than a watery fluid, urged through the punctum in an unfavourable direction: besides, it would be no bar to the use of proper general means.

Flattered with the seeming reasonableness of the suggestion, and convinced of the safety of the experiment, I resolved on making a trial the first opportunity; which soon occurred to me.

Mr. M—B—, a fadler, in Mark-Lane, had been troubled with a flux of tears and mucus down the cheek from the puncta of the right eye-lids, about seven months. There was a degree of swelling or distension of the sac, attended with pain. Upon pressing the sac, much ropy fluid, of a whitish colour, was forced through the puncta. The discharge was always in greatest abundance in the evening; at which time he had a dimness of sight in that eye.

The usual means had been employed, without success, by his surgeon, who approved of the suggested experiment, and the patient agreed to have it tried.

Mess. NAIRNE and BLUNT provided an instrument for the purpose. It consists of a fine steel pipe, a little curved,

cemented in a glass tube about six inches long. At the top of the tube is a wooden funnel; and at the bottom of this is a valve, which may be elevated by a silken string that is conveyed through a hole in the brim of the funnel, and hangs down by the side of the tube ^(a).

The steel pipe was passed into the inferior punctum, without pain or difficulty. The quicksilver was then poured into the funnel, and let down the tube by pulling the string of the valve. When the quicksilver regurgitated out by the superior punctum, the instrument was withdrawn. The quicksilver lay in the sac and duct, without exciting pain, about thirty hours, when it passed into the nose, and the patient caught some of it in his hand.

I thought it best at this time not to compress the sac; apprehending it would discharge the quicksilver through the puncta, and so frustrate the intention.

On the third day the operation was repeated; when, on gently compressing the sac, some of the quicksilver passed into the nose, and with it a piece of congealed whitish mucus. A small quantity of the quicksilver, upon making the pressure, returned through the puncta.

(a) I have described the instrument as it was used; but I have since thought, that it would not only be more simple but do as well without a valvular apparatus; the quicksilver being poured in by an assistant. (See the figure).

At the third and fourth times of repeating the operation, without any compression, at intervals of a few days, the quicksilver passed readily into the nose.

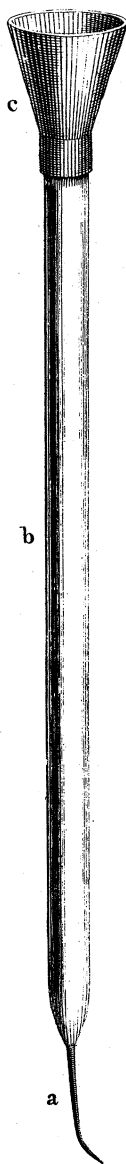
I once introduced the point of a steel pipe, used for injecting the lymphatic vessels. It is cemented to a tube of glass eighteen inches long. This pipe is not so fine as that of the other instrument, yet it was conveyed into the punctum without difficulty, and with little or no pain. To gain a greater degree of *momentum* I raised the column of quicksilver to about twelve inches, when it flowed into the nose with a considerable degree of velocity.

From the time that the quicksilver passed into the nose, less fluid trickled down the cheek than before. After the second or third operation, the swelling or distention of the sac entirely subsided. The patient at this time has no discharge of mucus, and a tear but very seldom: the parts have a perfectly healthy appearance.

To ascertain the effects of medicines in diseases of the constitution, many experiments, under various circumstances, are necessary; but in matters determinable by a mechanical operation, the effect, as far as our senses can direct us, is in general very plain and explicable.

In the case related this is clear, namely, that previously to the injecting of quicksilver, the tears, sebaceous matter,

- a. *The Steel Pipe*
b. *The Glass Tube*
c. *The Funnel*



ter, and mucus, did not pass through the nasal duct, or, but in a very small proportion to the quantity secreted; that at the first experiment, quicksilver did not pass; but that quicksilver, tears, &c., have since readily passed.

I cannot, however, flatter myself that this method will avail, except in the first or simple stage of the disorder; but many cases have a favourable state for the trial in their early period, and that opportunity may be seized with a probability of success.

The operation is simple, easily executed, productive of but little pain, and attended with no kind of danger.

